CLMPTO

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Please cancel claims 1-5

Please add the following new claims

6.   An apparatus for mixing a plurality of audio signals having different amplitude
levels, wherein the apparatus comprises:

        means for adjusting the amplitude levels of said plurality of audio signals based on
a plurality of distinct gain requirements of said plurality of audio signals, wherein said
means for adjusting the amplitude levels comprises,

                means for forming a first set of audio signals of said plurality of audio
signals based on a first gain requirement of said plurality of distinct gain requirements;

                means for forming a second set of audio signals of said plurality of audio
signals based on a second gain requirement of said plurality of distinct gain requirements,
said second set of audio signals being different than said first set of audio signals;

                means for applying a first gain to said first set of audio signals, said first
gain determined by said first gain requirement; and

                means for applying a second gain to said second set of audio signals, said
second gain determined by said second gain requirement;

                wherein said means for applying the first gain and said means for applying
the second gain form a plurality of weighted signals;

        means for summing together said plurality of weighted signals.

7.   The apparatus as described in claim 6, wherein said means for applying the first
gain to said first set of audio signals comprises means for amplifying said first set of audio
signals using a first fixed gain amplifier having a gain equal to said first gain requirement of
said plurality of distinct gain requirements.

8.   The apparatus as described in claim 7, wherein said means for applying the second gain to said second set of audio signals comprises means for amplifying said second set of audio signals using a second fixed gain amplifier having a gain equal to said second gain requirement of said plurality of distinct gain requirements.

9.   The apparatus as described in claim 6, wherein said means for forming a first set of audio signals comprises means for summing said audio signals of the first set using a plurality of operational amplifiers.

10.   The apparatus as described in claim 9, wherein said means for forming a second set of audio signals comprises means for summing said audio signals of the second set using a plurality of operational amplifiers.

11.   An audio mixer comprising:

a plurality of summing nodes configured to from different sets of audio signals based on each individual gain requirement of each audio signal;

a plurality of gain amplifiers, each of said plurality of gain amplifiers being coupled to receive a signal from one of the plurality of summing nodes, and each of said plurality of gain amplifiers provides a distinct gain for each set of audio signals, wherein each distinct gain is equivalent to the individual gain requirement of each set of audio signals; and

an output summing node coupled to receive output signals of said gain amplifiers.

12.   The audio mixer as described in claim 11, wherein the plurality of summing nodes comprises a plurality of operational amplifier nodes.

13.   A computer system having:

a processor;

a bus coupled to said processor;

a memory coupled to said bus;

an audio mixer coupled to said bus and configured to adjust the amplitude levels of a plurality of audio signals having different amplitude levels, wherein said audio mixer comprises:

a plurality of summing nodes configured to form different sets of audio signals based on each individual gain requirement of each audio signal;

a plurality of gain amplifiers, each of said plurality of gain amplifiers being coupled to receive a signal from one of the plurality of summing nodes, and each of said plurality of gain amplifiers provides a distinct gain for each set of audio signals, wherein each distinct gain is equivalent to the individual gain requirement of each set of audio signals; and

an output summing node coupled to receive output signals of said gain amplifiers.

14.   The computer system as described in claim 13, wherein the plurality of summing nodes comprises a plurality of operational amplifier nodes.

15.   The computer system as described in claim 13, wherein said audio mixer digitally processes said different sets of audio signals.

16.   A machine readable medium containing executable computer program instructions which when executed by a processing system cause said processing system to perform a method of mixing a plurality of audio signals having different amplitude levels, wherein the method comprises:

adjusting the amplitude levels of said plurality of audio signals based on a plurality of distinct gain requirements of said plurality of audio signals, wherein adjusting the amplitude levels comprises:

forming a first set of audio signals of said plurality of audio signals based on a first gain requirement of said plurality of distinct gain requirements;

forming a second set of audio signals of said plurality of audio signals based on a second gain requirement of said plurality of distinct gain requirements, said second set of audio signals being different than said first set of audio signals;

applying a first gain to said first set of audio signals, said first gain determined by said first gain requirement; and

applying a second gain to said second set of audio signals, said second gain determined by said second gain requirement;

wherein said applying the first gain and applying the second gain forms a plurality of weighted signals;

summing together said plurality of weighted signals.

17. The machine readable medium as described in claim 16, wherein said applying the first gain to said first set of audio signals comprises amplifying said first set of audio signals using a first fixed gain amplifier having a gain equal to said first gain requirement of said plurality of distinct gain requirements.

18. The machine readable medium as described in claim 17, wherein said applying the second gain to said second set of audio signals comprises amplifying said second set of audio signals using a second fixed gain amplifier having a gain equal to said second gain requirement of said plurality of distinct gain requirements.

19. The machine readable medium as described in claim 16, wherein forming a first set of audio signals comprises summing said audio signals of the first set using a plurality of operational amplifiers.

20. The machine readable medium as described in claim 19, wherein forming a second set of audio signals comprises summing said audio signals of the second set using a plurality of operational amplifiers.